



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,980	12/17/2001	Hiroyuki Harada	060151-0278271	4234

28075 7590 03/25/2003  
CROMPTON, SEAGER & TUFTE, LLC  
1221 NICOLLET AVENUE  
SUITE 800  
MINNEAPOLIS, MN 55403-2420

EXAMINER

NGUYEN, TRAN N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/022,980

Applicant(s)

HARADA ET AL.

Examiner

Tran N. Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

2. The disclosure is objected under 37 CFR 1.71(a)-(c) because of the following:

Page 5 of the specification discloses that *the armature core (8) has teeth (8a), the number of which is twelve in this embodiment, i.e., 12 armature teeth (8a). In this embodiment, each consecutive five teeth (8a) form a group, and there are twelve groups of the teeth (8a).* This is confusing because if each consecutive 5 teeth form 1 group, i.e., one group includes 5 teeth, then it is unclear how does the total of 12 teeth form 12 groups of teeth? Unless, 1 single tooth (8a) forms a single group of tooth, then 12 teeth would form 12 groups of tooth. Note that it would be group of tooth because only one single tooth in each group.

Furthermore, also on page 5, the specification states that *"any one of the teeth (8a) is located at the **most advancing position** in the rotation direction in one of the teeth groups,"* this is confusing because it is unclear what is the so-called *"**most advancing position**"*, for clarification the term "most advancing position" should be changed to the ***most preceding*** position or the ***most forwarding*** position in the rotation direction;

*"the tooth (8a) at the second advancing position in this group is also the most advancing tooth 8a in the next group. In this manner, each tooth (8a) is defined as the most advancing tooth to the most trailing tooth (8a), or the first to fifth tooth (8a), in five consecutive teeth groups."* This is confusing. Particularly, by stating that *"each tooth (8a) is defined as the most advancing tooth to the most trailing tooth (8a), or the first to fifth tooth (8a), in five consecutive teeth groups"* is there each tooth in each group, or in other words, each group of the five consecutive groups has one single tooth?

As mentioned above, it is unclear how many teeth or just one single tooth in each group. The preceding disclosure in this page states that *"in this embodiment, each consecutive five teeth (8a) form a group (i.e., a group has 5 consecutive teeth), and there are twelve groups of the teeth (8a)(this causes the confusion and contradict to the previous phrase because there are total of 12 teeth in the armature, this means each group has one tooth only).*

Also, on page 8 of the specification, the disclosure *"when the advancing end of the bar of the first tooth (8a) is aligned with the border of the thin part 2c and the main portion 2a during rotation of the armature 4 as shown in Fig. 2, one of the brushes 6, which is connected to one of the pairs of the segments (5a), starts contacting the adjacent segment 5a. This starts commutation of the corresponding coil (9). In other words, the bar of the first tooth (8a) starts contacting the thin part 2c at the moment when commutation of the brush 6 is started."* This is unclear how the bar of the tooth (so-called "the bar" in this disclosure is also known as pole-shoe or pole-tip in the art) starts contacting the thin part (2c) of the magnet because the armature and the magnet stator are spaced apart by an air gap, as shown in figs 1-2). Does this means that magnetically contacting the thin part (2c) of the magnet, or in other words the magnetic flux flow between the bar of the tooth and the thin part (2c) of the magnet, rather than mechanically contacting the thin part of the magnet? Clarification is needed.

Appropriate corrections are required.

3. The objection to the specification is focused on the 37 CFR 1.71(a)-(c) issues only. Due to the lengthy specification in this application, it has **not** been checked to the extent necessary to determine the presence of all possible **minor and informal errors**. Applicant's cooperation is therefore requested in promptly correcting any errors of which the applicant may become aware of in the specification and/or the drawings.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to

Art Unit: 2834

enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 1-17** are rejected under 35 U.S.C. 112, *first paragraph*, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

**In claims 1-17**, the following:

*“a plurality of armature coils, wherein each coil is wound about a different group of teeth having a predetermined number of teeth, wherein each tooth is located at the most advancing position in the rotation direction in one of the teeth groups”*

*“the number of teeth belonging to the same group is represented by  $n$ , wherein the circumferential length of the main portion of each magnet corresponds to a second predetermined angle, wherein the second predetermined angle is determined such that, when the circumferential center of the first tooth is aligned with the most advancing portion of the main portion in the rotation direction of the armature, the most trailing end of the main portion in the rotation direction of the armature is circumferentially located between the  $n$ th tooth and  $(n-1)$  th tooth”*

*“the number of teeth belonging to the same group is represented by  $n$ , wherein the circumferential length of the main portion of each magnet corresponds to a second predetermined angle, wherein the second predetermined angle is determined such that, when the circumferential center of the first tooth is aligned with the most advancing portion of the main portion in the rotation direction of the armature, the most trailing end of the main portion in the rotation direction of the armature is aligned with the advancing end of the  $n$ th tooth in the rotation direction of the armature.”*

containing subject matter that was not clearly described and supported in the specification. See the specification objection for detail.

### ***No Prior-Art Rejection***

Given the 37 CFR 1.71(a)-(c), as well as the 35 USC 112, first paragraph, deficiencies set forth above, no rejection based on the prior art.

According to MPEP 2173.06 states:

*"...where there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of a claim, it would not be proper to reject such a claim on the basis of prior art. As stated in In re Steele, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 U.S.C. 103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims."*

Thus, given the great deal of confusion and uncertainty of the claimed invention's enablement, as well as how to the proper interpretation of the limitations of claims, it would not be proper to reject claims 1-17 on the basis of prior art.

### ***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

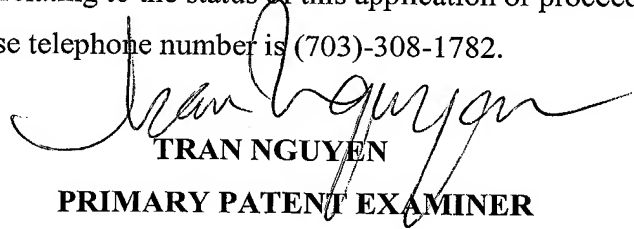
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Application/Control Number: 10/022,980

Page 6

Art Unit: 2834

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.



TRAN NGUYEN

**PRIMARY PATENT EXAMINER**

**TC-2800**